Paper No. 18

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte VISHAL MARKANDEY, STEPHEN W. MARSHALL, DONALD B. DOHERTY, VADLAMANNATI VENKATESWAR, PAUL M. URBANUS and ROBERT J. GOVE

Appeal No. 1998-0662
Application No. 08/561,223

ON BRIEF

Before HAIRSTON, KRASS, and HECKER, ***Administrative Patent Judges***.

HECKER, ***Administrative Patent Judge***.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1 through 20, all claims pending in this application.

The invention relates to displaying video data with a spatial light modulator using interlaced video input data. In particular, referring to Figure 1, a video signal is received at input 11 and processed at processor 12 which includes an analog- to-digital (A/D) converter. One field of pixel data

is stored in display memory 14 for writing into rows of pixel elements on spatial light modulator (SM) 16 for display on screen 20. At least two adjacent rows of SM 16 are enabled simultaneously to display the same row of pixel data.

Representative independent claim 8 is reproduced as follows:

8. A method of using a spatial light modulator to display a video frame comprised of pixel data of a field of an incoming video signal, said spatial light modulator comprising an array of pixel elements arranged in display rows, comprising the steps of:

processing all of said pixel data in a common analog-to-digital converter;

receiving a row of pixel data into an input register of said spatial light modulator; and

changing the state of pixel elements in two adjacent display rows in response to said row of pixel data in said input register, wherein said two adjacent display rows receive said row of pixel data simultaneously.

The references relied on by the Examiner are as follows:

Hanmura et al.	4,481,511	Nov. 6, 1984
Masumori et al.	5,168,270	Dec. 1, 1992
Stoltz	5,231,388	Jul. 27, 1993

Claims 1 through 6 and 8 through 16 stand rejected under 35 U.S.C. § 103 as being unpatentable over Masumori in view of Hanmura.

Claims 7 and 17 through 20 stand rejected under 35 U.S.C. § 103 as being unpatentable over Masumori in view of Hanmura and further in view of Stoltz.

Rather than repeat the arguments of Appellants or the Examiner, we make reference to the brief and the answer for the details thereof.

OPINION

After a careful review of the evidence before us, we agree with the Examiner that claims 1, 4, 7 through 9, 11, 15, 17, 18 and 20 are properly rejected under 35 U.S.C. § 103. Thus, we will sustain the rejection of these claims but we will reverse the rejection of remaining claims on appeal for the reasons set forth ***infra***.

The Examiner indicates that Masumori teaches the claimed invention except for (1) the use of two A/D converters instead of one as claimed, (2) a common connection for two adjacent rows to their enable lines, (3) masking of the least significant bit of a row address, and (4) use of a digital mirror device (DMD) as the SM. The Examiner observes that

Hanmura teaches the use of one A/D converter as common in this art with respect to (1) supra, that Hanmura teaches it as known to use a common enabling line with respect to (2) supra, that it would be obvious to use masking with respect to (3) supra, and that Stoltz teaches the well known use of DMD's with respect to (4) supra. The Examiner deems the combination of these elements to have been obvious to one of ordinary skill in the art at the time of the invention to eliminate extra elements (second A/D converter) thus reducing cost, simplify the circuit (reducing the number of address lines via a common connection and eliminate extra addressing via masking), and substituting one flat panel device (DMD of Stoltz) for another (LCD of Masumori) as the SM. (Answer-pages 4-7.)

Appellants argue that Masumori's use of two A/D converters teaches away from being combined with Hanmura (brief-pages 3-4).

We agree with the Examiner. Masumori offers two modes of display, a double definition display and a standard definition display. Double definition requires two A/D converters. In the double definition mode, both converters operate at the

same clock period P, but with a 180E phase shift. When the two A/D converter outputs are combined an effective sampling period of P/2 is obtained (see Figure 3). The standard definition mode requires only one A/D converter with a sampling period of P. Thus the output of the two A/D converters is the same and redundant in the standard definition mode (see Figure 4). Since the Examiner is relying solely on the disclosure of Masumori's standard definition operating mode, only one A/D converter is required. Hanmura is a cumulative teaching of the need for only one A/D converter in such a mode.

Appellants argue that the combination of Masumori and Hanmura does not provide the claimed enabling of **two adjacent** rows to receive the **same** data **simultaneously** (brief-middle of page 4).

We agree with the Examiner that this is taught by Masumori operating in the standard definition mode. We note that at column 6, lines 54-66, Masumori states that (with respect to Figure 2) in the standard definition mode gate lines 1 and 2 are **simultaneously** driven and data of the **same**

line is provided to picture elements on the first and second (i.e., adjacent) rows, and that the next gate shift clock gates lines 3 and 4 **simultaneously** and the **same line** is provided to picture elements on the third and fourth (i.e., adjacent) rows. Additionally we note column 7, lines 23-36, for a similar teaching.

With respect to the claims reciting that the SM's are mirror devices, Appellants make no specific argument as to the applicability of Stoltz for this teaching, and rely upon previous arguments to support these claims (brief-pages 8 and 9).

In view of the forgoing, we will sustain the Examiner's rejection of claims 1, 8, 11 and 17 (all independent claims), all of Appellants' arguments pertaining thereto having been considered supra.

With respect to claims 4 and 20, Appellants argue that the references do not teach the two adjacent lines receiving the **same** data (brief-pages 5 and 10). We have addressed this point supra and will sustain the Examiner's rejection of these claims.

With respect to claims 7 and 18, Appellants rely on previous arguments without specifically addressing the applicability of Stoltz for the teaching of the SM being a mirror device (brief-pages 8 and 9). Accordingly we will sustain the Examiner's rejection of these claims.

With respect to claims 9 and 15, Appellants argue that the references do not teach the use of a memory element associated with a pixel element (brief-pages 6, 7 and 8). We agree with the Examiner that this is taught by Masumori's memory elements 11_1, 11_2,...11_S (answer-page 9). Thus we will sustain the Examiner's rejection as to these claims.

It is the burden of the Examiner to establish why one having ordinary skill in the art would have been led to the claimed invention by the reasonable teachings or suggestions found in the prior art, or by a reasonable inference to the artisan contained in such teachings or suggestions. ***In re Sernaker***, 702 F.2d 989, 995, 217 USPQ 1, 6 (Fed. Cir. 1983). In addition, the Federal Circuit states that "[t]he mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the

prior art suggested the desirability of the modification." ***In re Fritch***, 972 F.2d 1260, 1266 n.14, 23 USPQ2d 1780, 1783-84 n.14 (Fed. Cir. 1992), ***citing In re Gordon***, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984).

With respect to claims 2, 12 and 19, the Examiner admits that Masumori does not disclose a common connection to enable two adjacent rows, but indicates this is taught by Hanmura's row selector (6). (Answer-page 5.) We do not find such a teaching in Hanmura. Even if there were such a teaching, we find no motivation to incorporate such in Masumori. Thus we agree with Appellants (brief-pages 5, 7 and 9), and will not sustain the Examiner's rejection as to these claims.

With respect to claims 3 and 14, the Examiner has presented no evidence of masking to effect a common connection (answer-page 6). Thus, in addition to lacking support in the rejection for a common connection (re: claims 2, 12 and 19), the Examiner lacks support for achieving this common connection via masking. Accordingly, as argued by Appellants (brief-pages 5 and 8), we will not sustain the Examiner's rejection as to these claims.

With respect to claims 5 and 13, the Examiner asserts that Masumori teaches each row is addressed independently (answer-page 6). Be that as it may, claim 5 recites the second row address **is dependent** upon receiving the first row address. With respect to claim 13, the adjacent rows are addressed in succession. The Examiner has not shown these limitations to be taught in the applied references by stating Masumori addresses each row independently. Thus we will not sustain the Examiner's rejection as to these claims.

With respect to claim 6, the Examiner does not address the requirement that adjacent lines are addressed by ignoring the least significant bit (answer-page 9). Thus we agree with Appellants (brief-page 6) that this limitation is not shown by the combination of references. Accordingly we will not sustain the Examiner's rejection of this claim.

With regard to claims 10 and 16, the Examiner does not address the requirement of delivering a reset signal. Thus we agree with Appellants that this requirement is not met by the combination of applied references (brief-pages 7 and 8). Accordingly we will not sustain the Examiner's rejection of these claims.

We are not inclined to dispense with proof by evidence when the proposition at issue is not supported by a teaching in a prior art reference, common knowledge or unquestionable demonstration. Our reviewing court requires this evidence in order to establish a ***prima facie*** case. ***In re Knapp-Monarch Co.***, 296 F.2d 230, 232, 132 USPQ 6, 8 (CCPA 1961); ***In re Cofer***, 354 F.2d 664, 668, 148 USPQ 268, 271-72 (CCPA 1966). As noted supra, the Examiner has not established a ***prima facie*** case for dependent claims 2, 3, 5, 6, 10, 12, 13, 14, 16 and 19.

Additionally, we are not required to raise and/or consider issues not argued by Appellants. As stated by our reviewing court in ***In re Baxter Travenol Labs.***, 952 F.2d 388, 391, 21 USPQ2d 1281, 1285 (Fed. Cir. 1991), "[i]t is not the function of this court to examine the claims in greater detail than argued by an appellant, looking for nonobvious distinctions over the prior art." 37 37 CFR § 1.192(a) as amended at 60 Fed. Reg. 14518 (Mar. 17, 1995), which was controlling at the time of Appellants' filing the brief, states as follows:

> The brief . . . must set forth the authorities and arguments on which appellant will rely to maintain the appeal. Any arguments or authorities not included in the brief will be refused consideration by the Board of [P]atent Appeals and Interferences, unless good cause is shown.

Also, 37 CFR § 1.192(c)(8)(iv) states:

> For each rejection under 35 U.S.C. § 103, the argument shall specify the errors in the rejection and, if appropriate, the specific limitations in the rejected claims which are not described in the prior art relied on in the rejection, and shall explain how such limitations render the claimed subject matter unobvious over the prior art. If the rejection is based upon a combination of references, the argument shall explain why the references, taken as a whole, do not suggest the claimed subject matter, and shall include, as may be appropriate, an explanation of why features disclosed in one reference may not properly be combined with features disclosed in another reference. A general argument that all the limitations are not described in a single reference does not satisfy the requirements of this paragraph.

Thus, 37 CFR § 1.192 provides that just as the court is not under any burden to raise and/or consider such issues, this board is also not under any greater burden.

In view of the foregoing, the decision of the Examiner rejecting claims 1, 4, 7, 8, 9, 11, 15, 17, 18 and 20 under

35 U.S.C. § 103 is affirmed; however, the decision of the Examiner rejecting claims 2, 3, 5, 6, 10, 12, 13, 14, 16 and 19 under 35 U.S.C. § 103 is reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

KENNETH W. HAIRSTON Administrative Patent Judge	)
ERROL A. KRASS Administrative Patent Judge	) BOARD OF PATENT APPEALS AND INTERFERENCES
STUART N. HECKER Administrative Patent Judge	)

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